



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2013-0407; Directorate Identifier 2012-NE-22-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; CFM International S.A. Turbofan Engines**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for all CFM56-3 and CFM56-7B series turbofan engines with certain accessory gearboxes (AGBs) not equipped with a handcranking pad “oil dynamic seal” assembly. This proposed AD was prompted by 42 events of total loss of engine oil from CFM56 series turbofan engines while in flight. This proposed AD would require an independent inspection to verify re-installation of the handcranking pad cover after removal of the pad cover for maintenance until installation of a handcranking pad oil dynamic seal assembly. This inspection requirement exceeds normal maintenance and is necessary due to the design and location of the handcranking pad cover on the accessory gear box. We are proposing this AD to prevent loss of engine oil while in flight, which could result in engine failure, loss of thrust control, and damage to the airplane.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Antonio Cancelliere, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, Massachusetts, 01803; phone: 781-238-7751; fax: 781-238-7199; email: [antonio.cancelliere@faa.gov](mailto:antonio.cancelliere@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2013-0407; Directorate Identifier 2012-NE-22-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

### **Discussion**

We have received reports of 42 incidents of total loss of engine oil from engines while in flight. Thirty-four incidents were single-engine events and resulted in an in-flight shutdown of the engine or an air turnback (ATB). Four incidents involved total loss of engine oil in both engines installed on dual-engine airplanes, which caused an immediate ATB of the airplane. The loss of engine oil was traced to the AGB handcranking pad cover, which had not been reinstalled after maintenance, for example, after a borescope inspection of the engine.

This proposed AD would require an independent inspection of the AGB handcranking pad cover to verify its re-installation after removal. This inspection requirement exceeds normal maintenance and is necessary due to the design and location of the handcranking pad on the AGB. If an operator's approved maintenance program includes an independent inspection of the AGB handcranking pad cover after removal then compliance with those procedures will constitute compliance to the inspection requirements of the AD. This condition, if not corrected, could result in loss of engine oil in flight, which could lead to engine failure, loss of thrust control, and damage to the airplane.

### **FAA's Determination**

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

## **Proposed AD Requirements**

This proposed AD would require an independent inspection to verify correct installation of the handcranking pad cover after removal of the pad cover for maintenance. Introduction of a handcranking pad oil dynamic seal is available as an optional terminating action to the repetitive inspection requirements of this AD.

## **Costs of Compliance**

We estimate that this proposed AD would affect 2,702 CFM56-3 and CFM56-7B engines installed on airplanes of U.S. registry. We also estimate that it would take about 1 hour to perform the independent inspection required by this AD. The average labor rate is \$85 per hour. We estimate that normal maintenance will require the AGB handcranking pad cover to be removed every 1,300 flights cycles. Based on an average use of these model engines of approximately 6,000,000 flight cycles per year, we estimate that an independent inspection would be required approximately 4,615 times per year. Therefore, assuming that an operator does not already have an independent inspection of the AGB handcranking pad cover in its approved maintenance program, we estimate the cost of the proposed AD for U.S. operators to be \$392,275.

## **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority

because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**CFM International S.A.:** Docket No. FAA-2013-0407; Directorate Identifier 2012-NE-22-AD.

**(a) Comments Due Date**

We must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to CFM International S.A. CFM56-3 series and CFM56-7B series turbofan engines equipped with the accessory gearbox (AGB) part numbers (P/Ns) listed in Table 1 to paragraph (c) of this AD.

**Table 1 to Paragraph (c)**

<b>CFM56-3</b>	<b>CFM56-7B (except CFM56-7B27A, CFM56-7B27A/3, and CFM56-7B27AE)</b>	<b>CFM56-7B27A, CFM56-7B27A/3, and CFM56-7B27AE</b>
335-300-103-0	340-046-503-0	340-188-601-0
335-300-105-0	340-046-504-0	340-188-603-0
335-300-106-0	340-046-505-0	
335-300-107-0		
335-300-108-0		
335-300-109-0		
335-300-110-0		

**(d) Unsafe Condition**

This AD was prompted by 42 events of total loss of engine oil while in flight. We are issuing this AD to prevent loss of engine oil while in flight, which could result in engine failure, loss of thrust control, and damage to the airplane.

**(e) Compliance**

Unless already done, do the following:

**(f) Inspection of the AGB handcranking pad cover**

(1) Perform an independent inspection to verify re-installation of the AGB handcranking pad cover after maintenance.

(2) The presence of an independent inspection as a required inspection item in the approved continuous airworthiness maintenance program satisfies the requirement of paragraph (f)(1) of this AD.

**(g) Optional Terminating Action**

(1) As an optional terminating action to the inspection requirement of paragraph (f) of this AD, do the following:

(i) For CFM56-3 series engine models, modify the AGB handcranking pad per Paragraph 3, “Accomplishment Instructions” in CFM International Service Bulletin (SB) 72-1129, Revision 2, dated November 16, 2012.

(ii) For CFM56-7B series engine models, with the exception of the models listed in paragraph (g)(2), modify the AGB handcranking pad per Paragraph 3, “Accomplishment Instructions” in CFM International SB 72-0564, Revision 3, dated May 25, 2011 or Paragraph 3, “Accomplishment Instructions” in CFM International SB 72-0879, Revision 1, dated April 12, 2012.

(2) No terminating action is available at this date for engine models CFM56-7B27A, CFM56-7B27A/3, and CFM56-7B27AE, equipped with AGB P/N 340-188-601-0 and AGB P/N 340-188-603-0.

**(h) Definition**

For the purposes of this AD, an independent inspection means a second inspection by a qualified individual who was not involved in the original re-installation of the AGB handcranking pad cover following maintenance to confirm that the cover is installed correctly.

**(i) Alternative Methods of Compliance (AMOCs)**

The Manager, Engine Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request.

**(j) Related Information**

(1) For more information about this AD, contact Antonio Cancelliere, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, Massachusetts, 01803; phone: 781-238-7751; fax: 781-238-7199; email: [antonio.cancelliere@faa.gov](mailto:antonio.cancelliere@faa.gov).

(2) For service information identified in this proposed AD, contact CFM International Inc., Aviation Operations Center, 1 Neumann Way, M/D Room 285, Cincinnati, OH 45125; USA phone: 877-432-3272; USA fax: 877-432-3329; International phone: 1-513-552-3272; International fax: 1-513-552-3329; email: [geae.aoc@ge.com](mailto:geae.aoc@ge.com); or CFM International SA, Customer Support Center, International phone: 33 1 64 14 88 66; fax: 33 1 64 79 85 55; email: [snecma.csc@snecma.fr](mailto:snecma.csc@snecma.fr).

(3) You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.



Issued in Burlington, Massachusetts, on May 24, 2013.

Thomas A. Boudreau,  
Acting Directorate Assistant Manager, Engine & Propeller Directorate  
Aircraft Certification Service

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